

sistent spore increases little if any in size, and has not been observed to produce more than one erect filament. The spores in *A. Dasyæ* are larger and sessile. This plant was received from Mr. Hoyt, who has been making some interesting studies in *Dictyota* at the Beaufort station of the U. S. Bureau of Fisheries, of which some of the results have been published.<sup>1</sup> The type is in the herbarium of the National Museum. For a liberal supply of identical material, to be distributed in the *Phycotheca Boreali Americana*, the writer is indebted to the authorities of the Bureau of Fisheries.

MALDEN, MASSACHUSETTS.

PRELIMINARY LISTS OF NEW ENGLAND PLANTS,—  
XXI.<sup>2</sup> CYPERACEAE.<sup>3</sup>

M. L. FERNALD.

[The sign + indicates that an herbarium specimen has been seen; the sign — that a reliable printed record has been found.]

	Me.	N. H.	Vt.	Mass.	R. I.	Conn.
<i>Cladium mariscoides</i> (Muhl.) Torr. . . . .	+	+	+	+	—	+
<i>Cyperus aristatus</i> Rottb. . . . .	+	+	+	+	—	+
“ <i>dentatus</i> Torr. . . . .	+	+	+	+	+	+
“ “ var. <i>ctenostachys</i> Fernald . . . . .				+		
“ <i>diandrus</i> Torr. . . . .	+	+	+	+	+	+
“ <i>Engelmanni</i> Steud. . . . .				+		
“ <i>erythrorhizos</i> Muhl. . . . .				+		+
“ <i>esculentus</i> L. . . . .	+	+	+	+	+	+
“ “ var. <i>leptostachys</i> Boeckl. . . . .					+	+
“ <i>ferax</i> Rich. . . . .				+	—	+
“ <i>fliculmis</i> Vahl. . . . .				+	+	+
“ “ var. <i>macilentus</i> Fernald . . . . .	+	+	+	+	+	+
“ <i>fuscus</i> L. . . . .				+		—
“ <i>Grayi</i> Torr. . . . .				+	—	+

<sup>1</sup> Bot. Gazette, Vol. XLIII, p. 383, 1907.

<sup>2</sup> Printed in RHODORA as supplementary matter.

<sup>3</sup> For the list of *Carices* see RHODORA, iv. 218 (1902).



	Me.	N. H.	Vt.	Mass.	R. I.	Conn.
<i>Cyperus Houghtonii</i> Torr. . . . .			+	+		
“ <i>Nuttallii</i> Eddy . . . . .	+			+	+	+
“ <i>ovularis</i> (Michx.) Torr. . . . .				+		
“ <i>rivularis</i> Kunth . . . . .	+	+	+	+	+	+
“ <i>strigosus</i> L. . . . .	+	+	+	+	+	+
“ “ <i>var. capitatus</i> Boeckl. . . . .	+	+	+	+		+
“ “ <i>var. compositus</i> Britton . . . . .				+		
“ “ <i>var. robustior</i> Kunth . . . . .				+		+
<i>Dulichium arundinaceum</i> (L.) Britton . . . . .	+	+	+	+	+	+
<i>Eleocharis acicularis</i> (L.) R. & S. . . . .	+	+	+	+	+	+
“ <i>diandra</i> C. Wright . . . . .	+	+	+	+		+
“ <i>Engelmanni</i> Steud. . . . .				+		+
“ “ <i>var. detonsa</i> Gray . . . . .				+		
“ <i>intermedia</i> (Muhl.) Schultes . . . . .	+		+	+		+
“ <i>interstincta</i> (Vahl) R. & S. . . . .				+	+	
“ <i>melanocarpa</i> Torr. . . . .				+	+	
“ <i>obtusa</i> (Willd.) Schultes . . . . .	+	+	+	+	+	+
“ <i>olivacea</i> Torr. . . . .	+	-	+	+	+	+
“ <i>ovata</i> (Roth) R. & S. . . . .	+		+	+		+
“ <i>palustris</i> (L.) R. & S. . . . .	+	+	+	+	+	+
“ “ <i>var. calva</i> (Torr.) Gray . . . . .			+			
“ “ <i>var. glaucescens</i> (Willd.) Gray . . . . .	+		+	+		+
“ “ <i>var. vigens</i> Bailey . . . . .	+	+	+			+
“ <i>quadrangulata</i> (Michx.) R. & S. . . . .						+
“ <i>Robbinsii</i> Oakes . . . . .	+	-		+	+	+
“ <i>rostellata</i> Torr. . . . .		+		+	+	+
“ <i>tenuis</i> (Willd.) Schultes . . . . .	+	+	+	+	+	+
“ <i>Torreyana</i> Boeckl. . . . .						+
“ <i>tuberculosa</i> (Michx.) R. & S. . . . .				+	+	+
<i>Eriophorum angustifolium</i> Roth. . . . .	+					
“ “ <i>var. majus</i> Schultz . . . . .	+					
“ <i>callitrix</i> Cham. . . . .	+	+	+	+	+	+
“ <i>gracile</i> Roth. . . . .	+	+	+	+	+	+
“ <i>opacum</i> (Björnstr.) Fernald . . . . .	+			+		
“ <i>tenellum</i> Nutt. . . . .	+	+	+	+	+	+
“ <i>virginicum</i> L. . . . .	+	+	+	+	+	+
“ “ <i>var. album</i> Gray . . . . .						+
“ <i>viridi-carinatum</i> (Engelm.) Fernald . . . . .	+	+	+	+	+	+
“ “ <i>var. Fellowsii</i> Fernald . . . . .	+			+		
<i>Fimbristylis Frankii</i> Steud. . . . .	+	+	+	+	+	+
<i>Fuirena squarrosa</i> Michx. . . . .				+	-	
<i>Hemicarpha micrantha</i> (Vahl) Britton . . . . .		+		+	+	+
<i>Kobresia elachycarpa</i> Fernald . . . . .	+					



	Me.	N. H.	Vt.	Mass.	R. I.	Conn.
<i>Psilocarya scirpoides</i> Torr. . . . .				+	+	
<i>Rynchospora alba</i> (L.) Vahl . . . . .	+	+	+	+	+	+
“ “ var. <i>macra</i> Clarke . . . . .				+		
“ <i>capillacea</i> Torr. . . . .	+		+			
“ “ var. <i>leviseta</i> E. J. Hill . . . . .	+					
“ <i>fusca</i> (L.) Ait. f. . . . .	+	+	+	+	+	+
“ <i>glomerata</i> (L.) Vahl . . . . .	+	+	+	+	+	+
“ <i>macrostachya</i> Torr . . . . .				+	+	+
“ “ var. <i>inundata</i> (Oakes) Fernald . . . . .				+		
“ <i>Torreyana</i> Gray . . . . .		+				
<i>Scirpus americanus</i> Pers . . . . .	+	—	—	+	+	+
“ <i>atrocinctus</i> Fernald . . . . .	+	+	+	+	+	+
“ “ var. <i>brachypodus</i> Fernald . . . . .	+	+	+	+		+
“ <i>atrovirens</i> Muhl. . . . .	+	+	+	+	—	+
“ var. <i>pycnocephalus</i> Fernald . . . . .	+					
“ <i>caespitosus</i> L. . . . .	+	+	+			
“ <i>campestris</i> Britton, var. <i>Fernaldii</i> (Bicknell) Bartlett. . . . .	+			+		
“ “ var. <i>novae-angliae</i> (Britton) Fernald . . . . .	+	+		+	—	+
“ “ var. <i>paludosus</i> (A. Nelson) Fernald . . . . .	+	+		+	+	+
“ <i>Clintonii</i> Gray . . . . .	+					
“ <i>cyperinus</i> (L.) Kunth . . . . .	+	+	+	+	+	+
“ “ var. <i>Andrewsii</i> Fernald . . . . .			+	+		+
“ “ var. <i>condensatus</i> Fernald . . . . .	+	+	+	+	+	+
“ “ var. <i>pelius</i> Fernald . . . . .	+	+	+	+	+	+
“ <i>debilis</i> Pursh . . . . .	+		+	+	+	+
“ “ var. <i>Williamsii</i> Fernald . . . . .				+		
“ <i>Eriophorum Michx.</i> . . . . .						+
“ <i>fluviatilis</i> (Torr.) Gray . . . . .			+	+	—	+
“ <i>georgianus</i> Harper . . . . .	+	+	+	+	+	+
“ <i>Hallii</i> Gray . . . . .				+		
“ <i>heterochaetus</i> Chase . . . . .			+	+		
“ <i>hudsonianus</i> (Michx.) Fernald . . . . .	+	+	+	+	+	+
“ <i>lineatus</i> Michx. . . . .			+	+		+
“ <i>nanus</i> Spreng. . . . .	+		—	+	+	—
“ <i>occidentalis</i> (Watson) Chase . . . . .	+		+	+		
“ <i>Olneyi</i> Gray . . . . .		+		+	+	+
“ “ var. <i>contortus</i> Eames . . . . .						+
“ <i>pauciflorus</i> Lightf. . . . .	+		+			
“ <i>Peckii</i> Britton . . . . .		+	+	+		



	Me.	N. H.	Vt.	Mass.	R. I.	Conn.
<i>Scirpus pedicellatus</i> Fernald . . . . .	+	+	+	+		+
“ “ var. <i>pullus</i> Fernald . . . . .	+	+	+			
“ <i>planifolius</i> Muhl. . . . .			+	+	+	+
“ <i>polyphyllus</i> Vahl . . . . .				+	-	+
“ “ var. <i>macrostachys</i> Boeckl. . . . .						+
“ <i>robustus</i> Pursh . . . . .				+		
“ <i>rubrotinctus</i> Fernald . . . . .	+	+	+	+		+
“ “ var. <i>confertus</i> Fernald . . . . .	+					
“ <i>Smithi</i> Gray . . . . .	+		+		+	+
“ “ var. <i>setosus</i> Fernald . . . . .	+			+		
“ <i>subterminalis</i> Torr. . . . .	+	+	+	+	+	+
“ <i>sylvaticus</i> L. . . . .	+	+		+	+	+
“ “ var. <i>Bissellii</i> Fernald . . . . .						+
“ <i>Torreyi</i> Olney . . . . .	+	+	+	+	+	-
“ <i>validus</i> Vahl . . . . .	+	+	+	+	+	+
<i>Scleria pauciflora</i> Muhl., var. <i>caroliniana</i> (Willd.) Wood . . . . .				+		+
“ <i>reticularis</i> Michx. . . . .				+	+	
“ “ var. <i>pubescens</i> Britton . . . . .					-	-
“ <i>triglomerata</i> Michx. . . . .			-	+	-	+
“ <i>verticillata</i> Muhl. . . . .				-		+
<i>Stenophyllus capillaris</i> (L.) Britton . . . . .	+	+	+	+	+	+

## NOTES UPON THE ABOVE LIST.

*Cyperus ferax* Rich. As understood by the writer this includes *C. speciosus* Vahl.

*C. filiculmis* Vahl. All the material examined from northern New England is var. *macilentus* Fernald.

*C. ovularis* (Michx.) Torr. has been collected on made land about Boston, but is perhaps not persistent.

*C. erythrorhizos* Muhl., var. *pumilus* Engelm., *Eleocharis diandra* C. Wright, var. *depressa* Fernald, and several other minor variations are purposely omitted from this list as they seem to be only states due to temporary conditions of environment.

*Eriophorum angustifolium* Roth. This is the plant which was taken by the writer in his former discussion of the genus (RHODORA vii. 88) to be *E. polystachion* L. Messrs. Rendle and Britten have recently shown,<sup>1</sup> however, that the name *E. polystachion* must be

<sup>1</sup>Rendle & Britten, Journ. Bot. XLV, 443 (1907).



restricted to the endemic Eurasian plant which has generally passed as *E. latifolium* Hoppe, and that the more widely distributed boreal species which has been called *E. polystachyon* must be known as *E. angustifolium* Roth.

*Fimbristylis Frankii* Steud. This is the northern plant which has been passing very generally as *F. autumnalis*. True *F. autumnalis* (L.) R. & S. is a southern species with more slender spikelets in mostly decomposed umbels.

*Stenophyllus capillaris* (L.) Britton is our representative of a characteristic genus of warm regions. Our plant has recently been known as *Fimbristylis capillaris* (L.) Gray.

#### SUGGESTIONS FOR SPECIAL OBSERVATION.

*Cyperus cylindricus* (Ell.) Britton extends along the coast from Texas to Long Island and may be expected to reach Cape Cod and the adjacent sandy regions.

*C. dentatus* Torr., var. *ctenostachys* Fernald is a characteristic plant of the pine-barren regions of Cape Cod and New Jersey, and should be sought in Rhode Island and southeastern Connecticut.

*C. Engelmanni* Steud. and *C. erythrorhizos* Muhl. are both rather abundant in low grounds of the Boston basin. They occur beyond our limits along the coastal plain and in the Mississippi basin, and should be watched for in southern New England.

*C. flavescens* L. extends along the coast northward to Long Island and should be sought in southern New England. It has been reported in many lists, but all the New England specimens so named which the writer has seen have been either *C. diandrus* Torr., *C. rivularis* Kunth, or *C. Nuttallii* Eddy.

*C. Nuttallii* Eddy is undoubtedly in brackish marshes on the New Hampshire coast, as it is abundant in southern Maine and in eastern Massachusetts.

*C. ovularis* (Michx.) Torr. follows the coastal plain northward to southern New York and, as already noted, has been found as an adventive plant in Boston. It should be sought in the sandy regions of southern New England.

*C. rotundus* L., the Nut Grass of the Southern States, is adventive about New York City and should be watched for near our ports.

*C. strigosus* L., var. *compositus* Britton occurs on Cape Cod and should be sought in Rhode Island and southeastern Connecticut.



*Eleocharis acuminata* (Muhl.) Nees, a characteristic species in calcareous regions of northern New York, should be sought in western New England, especially in northern Vermont.

*E. Engelmanni* Steud. and its var. *detonsa* Gray, although very local in our region, are to be expected throughout southern New England.

*E. intermedia* (Muhl.) Schultes is common in wet calcareous soils in the northern half of Maine and frequent in northern Vermont. It should be sought in such places, especially marly bogs, in northern New Hampshire.

*E. intermedia* (Muhl.) Schultes, var. *Habereri* Fernald, now known only from the shores of Oneida Lake, New York, should be sought throughout the range of the species. It is distinguished by its lack of perianth-bristles.

*E. interstincta* (Vahl) R. & S., extending from Tropical America along the coastal plain to ponds of Rhode Island and eastern Massachusetts is likely to be found in southeastern Connecticut.

*E. melanocarpa* Torr., likewise, is a coastal species, found in southeastern Massachusetts, in Rhode Island and on the eastern end of Long Island. It is, therefore, probable that it reaches southeastern Connecticut.

*E. ovata* (Roth) R. & S. is found in wet places in northern Maine and northern Vermont. In Maine it apparently prefers calcareous soils and it should be looked for in such soils in northern New Hampshire. It is readily distinguished from *E. obtusa* (Willd.) Schultes (*E. ovata* of many American authors, not R. & S.) by its very purple-brown scales and by the very narrow tubercle.

*E. palustris* (L.) R. & S., var. *calva* (Torr.) Gray is apparently a very local plant and any information as to its occurrence is desirable.

*E. palustris* (L.) R. & S., vars. *glaucescens* (Willd.) Gray and *vogens* Bailey are probably of general distribution in New England.

*E. Robbinsii* Oakes is abundant in ponds of the coastal region of New England, and it extends inland in the Connecticut valley at least to west-central Massachusetts. It should be confidently watched for in ponds of southeastern Vermont, especially at low altitudes, where occur many other common coastal species, such as *Aspidium simulatum*, *Selaginella apus*, *Potamogeton pulcher*, *Cyperus diandrus*, *Fimbristylis Frankii*, *Scirpus Torreyi*, *Xyris caroliniana*, *Rhexia virginica*, &c.



*E. rostellata* Torr. is apparently frequent in salt marshes of eastern Massachusetts and New Hampshire. It is to be expected in the extensive marshes of southern Maine.

*E. Torreyana* Boeckl. occurs in wet pine-barrens from Florida north to New Jersey and it has recently been found by Messrs. C. B. Graves and R. W. Woodward on the shores of Beach Pond in Voluntown, Connecticut. The head of Beach Pond lies within the state of Rhode Island and the botanists of that state should easily extend the range of *E. Torreyana* into their territory.

*E. tricostata* Torr. follows the coastal plain from Florida to eastern Long Island. It possibly reaches the pine-barren region of southern New England, and should be watched for on wet sandy shores of ponds.

*Eriophorum angustifolium* Roth and its var. *majus* Schultz are abundant on the colder bogs of northern and central Maine and probably are of wide distribution in northern New England.

*E. Chamissonis* C. A. Meyer and its var. *albidum* (F. Nylander) Fernald occur locally in bogs of eastern Quebec and New Brunswick. They delight in the muck of the wettest quagmires and are possibly to be found in such situations in northern and eastern Maine.

*E. opacum* (Björnstr.) Fernald is as yet but little known in New England. Its recent discovery in eastern Maine and in northeastern Massachusetts suggests that it may be widely distributed in our cold bogs. It is less caespitose than *E. callitrix* (*E. vaginatum* of Am. auth., not L.), forming small loose tufts; its leaves are glabrous instead of scabrous; the upper sheaths are close, instead of conspicuously inflated; its heads are much smaller; and its bristles sordid instead of bright white.

*E. tenellum* Nutt., var. *monticola* Fernald is a characteristic dwarf plant (1–2 dm. high), with solitary spikelets, in a quagmire by an alpine pond on Table-top Mountain, Gaspé Co., Quebec. It is there associated with *Scheuchzeria palustris*, *Carex rariflora*, *C. limosa*, *C. pauciflora*, *Rubus Chamaemorus*, *Potentilla palustris*, and so many other New England plants, as to indicate the possibility that it occurs upon our highest mountains and colder bogs.

*E. viridi-carinatum* (Engelm.) Fernald, var. *Fellowsii* Fernald has the spikelets all sessile or subsessile, thus suggesting *E. virginicum*. It largely supplants the typical form of the species in the few stations known and may well be sought throughout New England.



*Fimbristylis castanea* (Michx.) Vahl occurs in marshes and sands along the coast from Florida to eastern Long Island. It should be watched for in southern New England.

*Fuirena squarrosa* Michx. occurs on sandy margins of ponds in eastern Massachusetts, Rhode Island and on Long Island. It is possibly in similar situations in southeastern Connecticut.

*Psilocarya scirpoides* Torr. is one of our most local plants, known from a very few wet sandy shores and swamps in Massachusetts and Rhode Island. Its occurrence about a pond at Springfield, Massachusetts, suggests that it may be watched for in Connecticut.

*P. nitens* (Vahl) Wood grows in mucky or wet sandy shores from Florida to northeastern Long Island. It is to be sought in southern New England.

*Rynchospora axillaris* (Lam.) Britton occurs in sandy swamps near the coast from Louisiana and Florida northward, and approaches our region in northern Long Island. It should be looked for in the pine-barren area of New England.

*R. capillacea* Torr. or its var. *leviseta* E. J. Hill occur very locally on wet limestone or in marly bogs in northern and central Maine and northern Vermont and in eastern Quebec. They are probably of wider distribution in northern New England than at present known.

*R. macrostachya* Torr. has recently been reported with some positiveness from Hartland, Vermont, by Mr. B. P. Ruggles who says, "Some members of the [Vermont] Botanical Club did not agree that [my *R.*] *macrostachyon* is a true *Rhynchospora*, but held that it was a depauperate or abnormal form of some *Juncus*. However I think it agrees with the description and plate in the Manual and is a true species. I have received the same from Massachusetts with that name and am not willing to give it up."<sup>1</sup> The specimen from Hartland which was referred to the writer was certainly a *Juncus* of the group with nodulose leaves. It is, however, possible that *R. macrostachya* may reach southern Vermont since it is known to extend inland at least to Franklin Co., Massachusetts.

*R. macrostachya* Torr., var. *inundata* (Oakes) Fernald may be expected throughout the range of the species.

*R. Torreyana* Gray. This well marked species, which is characteristic of the pine-barrens from New Jersey to Florida, was collected

<sup>1</sup> B. P. Ruggles, Vt. Bot. Cl., Bull. iii, 45 (1908).



by C. F. Parker in 1868 in bogs at East Washington, New Hampshire. Several other coastal plain and pine-barren species,— *Aletris farinosa*, *Ranunculus laxicaulis*, *Sclerolepis uniflora*, etc.— reach extreme northern and inland stations in swamps or on sandy shores of Cheshire and adjacent counties in New Hampshire and most of them occur in the coastal region of southern New England. *Rynchospora Torreyana*, therefore, should be watched for in southeastern Massachusetts, Rhode Island, and eastern Connecticut.

*Scirpus Clintonii* Gray is abundant on alluvial terraces and even on rocky banks throughout the calcareous-slate region of northern and central Maine; and it is also in northern and western New York. The plant, which is somewhat intermediate in appearance between *S. planifolius* and *S. caespitosus*, should be sought in northern New Hampshire and Vermont.

*S. Hallii* Gray is one of the most local members of the genus. It has long been known from the shores of Winter Pond, Winchester, Massachusetts, but from no other station northeast of Georgia. Its association at Winter Pond with such plants of southern New England as *Scleria reticularis*, *Eleocharis Engelmanni*, var. *detonsa*, *Crotalaria sagittalis*, *Cassia nictitans*, *Rotala ramosior*, *Coreopsis rosea*, etc. indicates the probability that it will be found about sandy-bottomed ponds in other portions of southern New England.

*S. heterochaetus* Chase, known from Lake Champlain, Vermont, and from the Charles River in eastern Massachusetts, is to be sought throughout western and southern New England, particularly at sheltered margins of lakes and quiet pools.

*S. nanus* Spreng. is undoubtedly to be found on the salt marshes of New Hampshire. It is abundant in southern Maine and in eastern Massachusetts.

*S. occidentalis* (Watson) Chase is frequent in Maine and Vermont especially near the margins of the larger lakes, and it is found locally in eastern Massachusetts. Further observations will probably show it to be widely distributed in New England.

*S. pauciflorus* Lightf. is found on wet limy rocks or marly shores at several stations in northern and north-central Maine and in northern Vermont. It should be watched for in such situations in northern New Hampshire.

*S. rufus* (Hudson) Schrad. is one of the characteristic turf-forming plants of salt marshes about the Gulf of St. Lawrence where it is



associated with many of our best known species: *Triglochin maritima*, *Elymus arenarius* L., *Carex norvegica* Willd., *Polygonum Fowleri* Robinson, *Spergularia canadensis* (Pers.) Don, *Glaux maritima* L., var. *obtusifolia* Fernald, etc. Since all these and many other species with which it grows are abundant on the eastern coast of Maine, it is hoped that *Scirpus rufus* may soon be found in that region.

*S. Smithii* Gray and its var. *setosus* Fernald are often confused in herbaria with *S. debilis* and are probably more widely distributed than at present known. *S. debilis* has the achene biconvex, *S. Smithii* plano-convex, one of the faces being distinctly flattened.

*S. sylvaticus* L. grows at Hanover, New Hampshire and will probably be found on the Vermont side of the Connecticut.

*Scleria*. The species of *Scleria* are all very local and little known in New England. Any new stations for them are of unusual interest. They occur chiefly in damp pine-barrens.

GRAY HERBARIUM.

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FILIPENDULA RUBRA IN MAINE.— Five years ago in June, I observed near a road which runs through a meadow near my camp a plant with which I was not familiar. In July when it blossomed I determined it to be *Filipendula rubra* (Hill) Robinson and sent a specimen to the Gray Herbarium for verification. Mr. Bartlett wrote me that the plant was what I thought. He says it is native only in the central and southern states though it is commonly cultivated in the East and sometimes escapes. There is however none under cultivation in this town and the plant must have been introduced by grass seed. Mr. Bartlett says it is reported as well established in Vermont and Connecticut but has never been recorded from Maine.

The plant has increased until there is a large clump of it and it presents a striking appearance with its stalks of pink blossoms.— ELIZABETH MEADS MOODY, South Limington, Me.